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- (b) In each enclosed space or separate room there shall be exposed at least 5 percent of the total length of tubing in that circuit, but in no case shall the amount be less than 25 feet.
- (c) No spot on the overhead of a protected space shall be more than 12 feet from the nearest point of tubing. Where beams or girders extend below the ceiling, or where the ceiling is installed at more than one level, the tubing shall be so located as to be most effective.

§76.30-15 Operation and installation.

- (a) The system shall be so arranged and installed that the presence of a fire in any of the protected spaces will automatically be registered visibly and audibly in the pilothouse or fire control station. The visible notice shall automatically indicate the zone in which the alarm originated. On vessels over 150 feet in length, there shall also be an audible alarm in the engine
- (b) The tubing or detecting devices, pneumatic-electric converting units, detecting cabinets, and alarms shall be of an approved type.
- (c) In general, the system shall be adjusted to operate at a temperature rise of approximately 40 degrees F. per minute at the center of the circuit.
- (d) The fire detecting system shall be used for no other purpose except that it may be incorporated with the manual alarm system.
- (e) All wiring and electrical circuits and equipment shall meet the applicable requirements of subchapter J (Electrical Engineering) of this chapter.
- (f) A framed chart or diagram shall be installed in the wheelhouse or control station adjacent to the detecting cabinet indicating the location of the various detecting zones and giving instructions for the operation, maintenance, and testing of the system. This chart, or a separate card or booklet to be kept near the chart, shall have tabulated spaces for the date and signature of the licensed officer of the vessel who shall witness or conduct the periodic tests.
- (g) The audible alarms shall be identified as required by §78.47–13 of this subchapter.

§ 76.30-90 Installations contracted for prior to November 19, 1952.

- (a) Installations contracted for prior to November 19, 1952, shall meet the following requirements:
- (1) Existing arrangements, materials, and equipment previously approved shall be considered satisfactory so long as they meet the minimum requirements of this paragraph and they are maintained in good condition to the satisfaction of the Officer in Charge, Marine Inspection. Minor repairs and alterations may be made to the same standards as the original installation.
- (2) The details of the systems shall be in general agreement with §§76.30–5 through 76.30–15 insofar as is reasonable and practicable.
 - (b) [Reserved]

Subpart 76.33—Smoke Detecting System, Details

§ 76.33-1 Application.

- (a) Where a smoke detecting system is installed, the provisions of this subpart, with the exception of §76.33–90, shall apply to all installations contracted for on or after November 19, 1952. Installations contracted for prior to November 19, 1952, shall meet the requirements of §76.33–90.
 - (b) [Reserved]

§ 76.33-5 Zoning.

- (a) The smoke detecting system shall be divided into separate zones to restrict the area covered by any particular alarm signal.
- (b) The smoke detecting zone shall not include spaces on more than one deck, except the small adjacent spaces mentioned in paragraph (c) of this section
- (c) Each separate space shall be considered as a zone, except that two or three small adjacent spaces having a combined volume not exceeding 5,000 cubic feet may be connected on the same zone.
- (d) Where a space is of such size that one accumulator is not sufficient, not more than two accumulators may be combined in one zone.